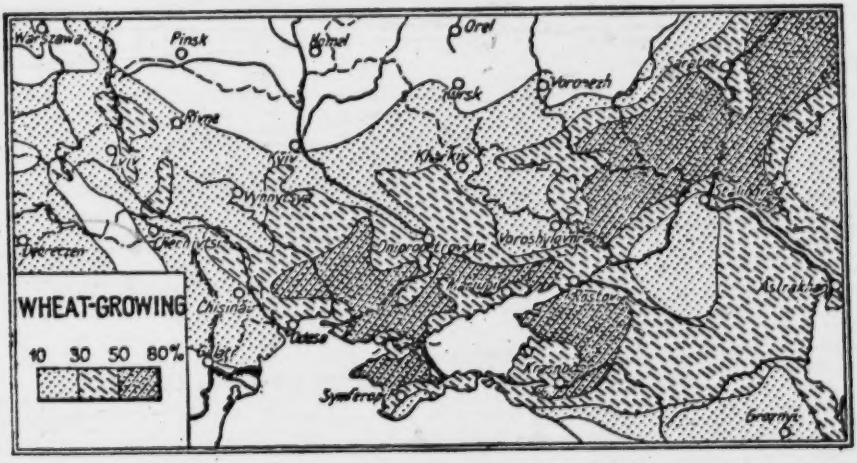
5. Other Agricultural Produce.

244 433 In Western Ukraine potatoes account for 16—18 % of the arable land, decreasing towards the south-east to 3—2%. There has been a considerable increase in the cultivation of potatoes of recent times on the small property belonging to private or to collectivised peasants. The yield per ha which before World War I amounted to 92 q sank in the years 1929—1933 to 86 q (Belgium 213, Germany 156, France 110, USSR 80, USA 72). Its total production of 20.6 million t, 10 % of world production (205.6 million t in years 1931—35) puts Ukraine fourth after Germany, USSR (exclusive of Ukraine), and Polan' (exclusive of Ukrainian territory).

249 433 Sugar beet is the most important technical cultu.e. It is grown mostly in the center of Dnipro-Ukraine where the rainfall is 500 mm, above all in the area round Kyiv and in Podol.'. The average area planted in the years from 1901/02 to 1910/11 amounted to 555 000 ha and the total yield to 85 million t (154 q/ha). In 1935 Ukraine, with a sugar beet area of 952 000 ha, was the first country in the world as regards this product.

And yet the yields per hektar have decreased to 90 q, the average for 1931—35. In Germany the corresponding figure is 290 q/ha, in Denmark 322 q/ha, in Holland 350 q/ha, in the USSR

[243]



84 q/ha. The reason for the decrease is to be sought in the Soviet form of management. With an entire yield of 8.8 mil-

4: Allen H-4 (no date) 1941 RD1 Ukraine RD1

166 ALREADY IN THE EIGHTIES SYMPTOMS OF OVER-POPULATION WERE NOTICEABLE in the Governments of Poltava and Chernigov. The peasants continued to move on into New Russia, but by this time that region was itself becoming fairly thickly populated. Migrants pursued their way to the newer lands in the northern Caucasus and beyond the Volga. From 1890 onwards the Government took a hand in the organization of this migratory movement. According to the Emigration Department, set up at this period, the greatest number of migrants over the whole Empire came from the 'rich black earth regions' of Poltava, Chernigov, Kursk and Kharkov. However, between the years 1907 and 1913, the Poltava and Chernigov Governments, from being first and second in this respect, ranked only third and fifth. This fact is explained by the initiative of important landowners and industrialists like Kharitonenko, Tereshchenko and others who built up the sugar-beet industry on a large scale. Notwithstanding this factor, between 1906 and 1914, according to the statistics of the *Ukrainian Encyclopaedia*, 1,610,000 peasants migrated from the Ukrainian Governments, while migration was also taking place from different districts of New Russia. The Ukrainians mostly went to settle the steppe area in western Siberia and the region of Orenburg; others reached the Amur and the shores of the Pacific Ocean, where the Ukrainian settlements came to be known as the Green Wedge (*Zelëny Klin*) and where the names of the wealthy villages of Novo-Kievskoe, Poltavskoe and Chernigovskoe piously recalled the origin of those who had come from the banks of the Dniepr and the Seym.

311 433 At the beginning of the twentieth century the classical 'three-field system', already prescribed as a law in the Lithuanian Statute of the sixteenth century, prevailed in left-bank Ukraine. This system answered the requirements of the small landowner or well-to-do peasant who farmed 20 to 100 hectares. Few troubled to produce more than a small surplus, the sale of which might cover their current wants. Horticulture, apiculture and some stock-raising served to supplement income. On the larger estates all the energies of the owners were directed to the lucrative exploitation of the sugar-beet industry. Stretches of land were bought or leased from peasants or small landowners in order to increase the acreage under beet. The rapid development and excellent management of the sugar-beet industry impressed and disturbed the German Commission of Professor Auhagen in 1912. By this time the industry had assumed a certain international importance. In 1914 433 there were over 190 sugar factories in the Ukraine out of 226 for the ● 244 whole Empire (the bulk of the balance was produced in Poland). As against 2 million hectares under wheat in the Ukraine (excluding

4: Allen H-4 (no date) 1941 RD1 Ukraine RD1

the New Russian Governments) there were over 1 million hectares under beetroot. Just before the last war the annual production of beet in the Ukraine reached 150 million quintals: i.e. 18 per cent of world production. The production of Ukrainian beet sugar ranked fourth—after that of America, Germany and France. In 1913 the Ukraine produced 11 million quintals of crystallized sugar. This output, together with that of the Polish factories, covered all the needs of the internal market (which during the preceding twenty-five years had augmented fourfold) and provided substantial surplus for export to the Baltic and the Middle East.

In addition to the beet processing plants, about 60 per cent of the alcohol refineries (corn, potatoes) of the Empire were located in the Ukraine. The production of vegetable oil (particularly from sunflower seed) was also important.

It has been estimated by the Soviet paper *Pravda* that approximately 1 milliard of rubles a year was paid for services on the semi-industrialized estates of landowners throughout Russia: of this sum a considerable proportion was paid for the hire of horse transport (since landowners did not maintain a large number of draught horses but hired from the villages). Of this milliard, about 300,000,000 were paid out in the Ukraine. As the peasant population of the Ukraine numbered about fifteen millions, some 20 rubles a year per head of the population was earned on 'supplementary' work on the large estates. 'Only owing to the sugar and other agricultural industries could the dense population of the Ukraine exist in such comparatively well-to-do circumstances.'

Thus the agricultural economy of Podolia, Volhynia, Kiev, Chernigov and Poltava was based only partly on the production of cereals. With a population which reached nearly twenty millions, only about 2 million hectares were under wheat, while in New Russia, with a population about half that of the Ukrainian Governments, there were 4 million hectares under wheat. The Ukraine exported only small quantities of wheat to Poland and White Russia, which provinces drew the bulk of their supplies from New Russia. The real 'granaries' of Russia which supplied the whole Empire and exported a surplus abroad were the regions of the northern Caucasus and Trans-Volga with western Siberia and New Russia (including the Governments of Kherson and Ekaterinoslav with the northern part of Tauris and the southern part of Kharkov) In those regions the black earth really had a virgin quality during the first half of the nineteenth century; and its richness remains exceptional even now.

As a rule, the climatic conditions in the *New Russian Governments*

9: Prothero G-4 (no date) 1920 RD1 Ukraine RD1

privately-owned lands. The failure or success of the Ukraine wheat harvest has its effect upon the corn exchanges of the whole world, and its shipment from the Black Sea is the occasion of much anxiety and speculation every season.

Barley is largely grown and exported, being principally raised on privately-owned land. *Maize* comes next in value; the greater part of the crop is consumed locally, but a moderate quantity is exported in good years. The *oat* crop is valuable, and a proportion remains for export after the supply of local needs. *Millet* and *buckwheat* are grown for local use.

Of the non-cereal crops, *potatoes* take the first place, exceeding all others by a large margin. They are used not only for food and the manufacture of potato flour, but for the distillation of spirits, a flourishing industry in many districts. Small crops of *peas*, *beans*, and *lentils* are also grown.

The *sugar-beet* is raised in great quantities, especially in the governments which have not the black soil. Kiev produces most, Podolia and Kharkov come next; the remaining Governments have only small crops, and Taurida and Yekaterinoslav none. There is usually a large surplus of refined sugar for export, in addition to a valuable internal trade in sugar and manufactures thereof; the by-products of cattle food and spirit distilled from molasses increase the value of this crop.

Tobacco used to be widely cultivated except in the black-soil zone, but its cultivation is steadily decreasing everywhere. It still remains important in the Governments of Poltava and Chernigov. Only the coarsest qualities are raised, the leaf being known as *makhorka* and used solely by peasants and labourers.

Volhynia grows a large quantity of *hops*, about half the total yield of all Russia. The product is mostly sold locally, but occasionally a surplus is exported to the Warsaw market.

The *grape vine* is cultivated in Podolia, Kherson, and Yekaterinoslav. The wine produced is of inferior quality, and has only a local market.

Of the crops producing vegetable oils, *linseed* and

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247 Of the crops producing vegetable oils, linseed and *sunflower* are the principal. A great deal of sunflower seed is eaten raw by peasants and labourers all over Russia. These two crops are decreasing.

244 *Fruit and vegetables.*—The orchard districts are in the 439 Governments of Podolia, Chernigov, Poltava, and Kiev.
245 Apples, pears, plums, cherries, mulberries, and apricots grow freely, and the surplus goes to northern Russia, great quantities being preserved. Vegetables succeed well in the alluvial soils near the rivers. They are mostly grown by summer immigrants from Bulgaria (cf. p. 72), who use a primitive system of irrigation. The surplus supply all goes to northern Russia.

231 The live-stock of the Ukraine is very numerous, but of late years has tended to decrease.

Horses are much in demand for agricultural work, especially as the use of oxen as draught animals is being gradually abandoned. There is also a strong demand for horses in the coal and iron region for haulage. As a result the stock of horses has considerably increased in six out of the nine Governments, Volhynia, Podolia, and Chernigov alone showing decreases.

Cattle have decreased in numbers in five Governments and increased in four, but the total shows a serious falling off.

236 *Sheep* are divided roughly into two classes, fine-woolled and coarse-woolled, the former producing wool known as 'Spanish', the latter being killed for their skins. There is a general decrease of stock in every province of the Ukraine. The great increase of population and the demand for land, with rising rents, make sheep-farming not sufficiently profitable under present agricultural conditions.

231 The stock of *pigs* is, on the whole, maintained, and even shows a good increase in some Governments.

The *goat* was formerly of importance, and there was a considerable stock in the country, but it has dwindled latterly at a very rapid rate.

235 *Poultry* are kept in considerable numbers, but poultry-farming on modern methods is very rare and of small economic importance.

000 *Apiculture* is common in the northern Ukraine, and